



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

WA 6819
2/2/04
SAC

Reply To
Attn Of: WCM-126

FEB - 2 2004

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. William Ernst
Company Energy & Environmental Affairs
The Boeing Company
P.O. Box 3707
MC 1W-12
Seattle, WA 98124-2207

**Re: Transformer PCB Investigation Report
Boeing Plant 2, Seattle/Tukwila, Washington
EPA ID No. WAD 00925 6819
RCRA Docket No. 1092-01-22-3008(h)**

FILE COPY

Dear Mr. Ernst:

The U.S. Environmental Protection Agency Region 10 (EPA) received the Transformer PCB Investigation Data Report (the Report) submitted on December 19, 2003 and prepared by Roy F. Weston on behalf of The Boeing Company (Boeing). The Report has been prepared to fulfill the requirements of the 1994 Administrative Order on Consent (AOC) and the EPA's decision in this matter dated July 5, 2002, which has been incorporated into, and become an enforceable part of the AOC. EPA has determined that, as submitted, the document is not acceptable for review. Therefore the Report must be resubmitted and include all of the requested information below.

1. The report requires a significant amount of additional evaluation to be acceptable. The key determination in moving from Phase I to Phase II of the study is whether the objectives of the investigation have been met. Objectives of the Phase I Transformer Investigation are restated below and they set an outline for ensuing comments. In general, the first four objectives refine the Conceptual Site Model. (EPA's view of the Conceptual Site Model is shown in Figure 1, enclosed.) The last objective is directed at the remedy. Please note that the objectives (c) and (d) are combined into one comment.

- a) Characterize the hydrogeologic regime (Comment 2).
- b) Determine whether stabilization of the polychlorinated biphenyl (PCB) source area(s) is required (Comment 3)
- c) Determine nature and extent of PCB contamination (Comment 4).
- d) Determine pathways to receptors (Comment 4).
- e) Determine the nature of a Corrective Measures Action (CMA) from the release.

2. Characterize the hydrogeologic regime. While the report presents the results of the soil and groundwater sampling in multi-page tables, it does not interpret these with respect to the regime. The following missing elements must be provided to EPA:



- a) A plan view potentiometric flow map showing data points. (Note: all comparable maps should be the same scale and orientation in the report. In the present report, there are two orientations and scales as well as paper sizes.)
- b) A plan view map with groundwater PCB and soil data total petroleum hydrocarbons (TPH) and PCB call-outs (aka a "hit box map") showing PCB and TPH concentrations, and the screened or sampled intervals for each well or boring
- c) Discussion of remaining data gaps in hydrogeologic coverage. (See "Significant Data Gaps," below, for more on this topic.)

3. Determine whether stabilization of the PCB source area is required. This is not adequately evaluated in the report. Boeing must provide the following:

- a) The "hit box map" described above in 2(b).
- b) An iso-concentration (contour) map showing soil borings (including bankside borings) for PCBs and TPH.
- c) Cross-sections showing soil borings with iso-concentration lines for PCBs and TPH. At least two cross-sections: the first parallel to the fence line through the highest detected PCB values, and the second perpendicular to the waterway or parallel to groundwater (GW) flow line through the highest detected PCB values and bank. Projection of data points within 25-30 feet of cross-section lines may be used as needed.
- d) Correlation of TPH against PCB concentrations.
- e) Evaluation of TPH against fingerprints of transformer dielectric fluids, including the GC chromatograms, which may be provided separately to EPA.

4. Determine nature and extent of PCB contamination; evaluation of pathways to receptors. It is clear that the extent of sediment contamination has not been captured by Phase I. The following must be provided to EPA:

- a) A contour map showing sediment borings of PCBs.
- b) A SEDQUAL deliverable for all sediment analytical results.
- c) Evaluation of the equilibrium-partitioning of PCBs from groundwater of a concentration of 0.41 ug/L to sediment with total organic carbon (TOC) concentrations characteristic of the receiving sediments. Were the resulting sediment value to be below the PCB Sediment Quality Standard (12 mg/kg OC), then dissolved phase loading may not be important based on this data set.
- d) Using the information developed in 3c, provide an evaluation of potential historic and present-day flows of particulate-bound or non-aqueous phase liquid (NAPL) PCBs to the river from the storm sewer system.
- e) Evaluation of this significant data gap. A crucial gap in the well network occurs between wells PL2-JF01A (or PL2-JF01AR—there is some confusion in the numbering in Figure 1, two wells with the same ID of PL2-JF01A) and PL2-JF02A. As shown in the Work Plan, the direction of groundwater flow is nearly perpendicular to the shoreline and towards the river in this region. Well PL2-006A shows 0.41 ug/L total PCB. The intervening soil boring locations show significant quantities of petrochemicals in borings near the water table. The rebuttable presumption is that dissolved PCBs could potentially be making its way to the river between the first two wells. Also, because of the presence of petroleum hydrocarbons, the potential for

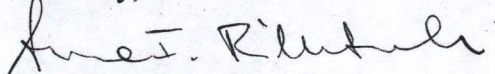
PCBs to move in a non-aqueous "carrier," i.e., as a sheen or as droplets, must be discussed. This may require an additional well that is screened in the high-TPH area and is positioned to show movement (or lack of movement) of PCBs.

The Report must be acceptable before Phase II may be scoped, and before CMA alternatives may be developed. Boeing must also propose Phase II, as appropriate. Both Boeing and EPA will meet to discuss specifics of the Phase II proposal.

Pursuant to the Section X of the AOC, Boeing must provide revised Report along with the required analyses within thirty (30) days of receipt of this correspondence.

Should you have any questions please don't hesitate to call me at 206/553-5122.

Sincerely,



Anna I. Filutowski
Project Manager

Enclosure

cc: Hideo Fujita, Ecology - NWRO
Brad Helland, Ecology - NWRO
Marla Seinhoff, NOAA
Glen St. Amant, Muckleshoot Tribe
Amy Essig-Desai, Farallon Consulting
David Templeton, Anchor Environmental

Figure 1. Conceptual Site Model for Transformer Investigation Site. (Note: sediment transport is not shown.)

